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Herd Behavior in Shariah Compliant Stocks: Evidence from Islamic Countries

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Abstract

This article investigates the presence of herd occurrence in Shariah-compliant stocks across 10 Islamic countries. To measure herd behavior, the Cross-Sectional Absolute Deviation (CSAD) technique has been applied to five years of daily stock price data from these countries. The analysis of daily stock prices for Saudi Arabia, Kuwait, Oman, Qatar, Bahrain, Bangladesh, Pakistan, Indonesia, Malaysia, and the UAE suggests a significant incidence of herd behavior among investors in these markets. The study is confined to assessing Islamic stockholders who invest in equity markets and are influenced by herd behavior, with the methodology offering potential applications to other Asian countries, as well as economies in Europe, the USA, and other regions. As research on behavioral sciences is still in its early stages, this paper represents a step forward in understanding behavioral biases through the lens of CSAD. Notably, there is a scarcity of research on behavioral finance in major Islamic countries across Asia, and this study aims to reduce that gap by analyzing the behavioral factors influencing investment decisions in these markets.

Keywords: Behavioral Finance, Herd Behavior, Shariah Compliance, Stock Market, Cross Sectional Absolute Deviation

I. Introduction

Herd behavior has been a subject of constant empirical exploration over the past decade. (Saadaoui et al., 2025; Wang et al., 2019; Stavroyiannisa and Babalos, 2017). Herd behavior is that behavioral bias where the investor does not take decisions rationally but relies on other investor's decisions and follows them without doing their own analysis. Herding behavior as described by Chaffai and Medhioub, (2017) is the inclination to go along with the actions of other investors and avoid one's own judgment. It can also be called irrational decision making because the investors are taking decisions without any logical justification. The reason behind this kind of behavior sometimes is that the investors do not have enough knowledge about the market and they want to follow some well-known investors or they feel that the others have more information about the market and on the basis of that they can take better decisions. It is also seen that investors herd or follow others in times when there is a rapid growth or crisis due to asymmetry of information and higher uncertainty.

This paper focuses on herd behavior and shariah compliance in 10 Islamic countries to find out whether investors who prefer shariah stocks have this behavioral bias or not because in many studies it is seen that herd behavior is present

in stock markets. There is a large number of investors these days who are interested in shariah stocks not only in Islamic countries but also in many other countries of the world. There are many countries who have even developed Islamic Index for shariah stocks and not just in Islamic countries but even in other countries also we can see that investors are interested in shariah stocks and they also have Islamic Index for shariah stocks.

Many studies have been conducted in Islamic countries to study the existence of herd behavior in stock market. Chaffai et al. (2017) studied the Islamic stock market of Gulf Cooperation Council (GCC) and suggested that herd behavior was present in these markets. Similarly, Medhioub et al. (2019) confirmed presence of herd behavior in major sectors of GCC Islamic stock market during falling periods. There are many other studies that investigate the herd behavior in stock markets in Gulf Islamic countries but there are hardly any studies that investigate the herd behavior in shariah stocks in major Islamic countries.

A notable gap in the existing literature is that, while herd behavior has been widely studied in conventional financial markets, there is limited research focusing on this behavior within the realm of Islamic finance, specifically regarding shariah-compliant stocks. Moreover, even fewer studies have explored herd behavior in the stock markets of Islamic countries, particularly using Islamic indices as a focus. Therefore, the research problem we address is: Do investors in shariah-compliant stocks in Islamic countries exhibit herd behavior?

Despite the growing interest in behavioral finance, particularly in the study of herd behavior, there is a significant gap in understanding how these behavioral biases manifest in Islamic stock markets. Much of the research on herd behavior has been conducted in conventional markets, particularly in developed economies (Chiang and Zheng, 2013; Demir and Solakoglu, 2016). Studies on herd behavior within Islamic financial markets, particularly with respect to shariah-compliant stocks, are sparse. Chaffai et al. (2017), Medhioub et al. (2019), and others have explored herd behavior in the context of the Gulf Cooperation Council (GCC) countries, but little attention has been paid to broader Islamic countries and their Islamic indices. The rapid expansion of the Islamic finance industry and the growing number of investors interested in shariah-compliant stocks further underline the need for research in this area. Thus, our study aims to bridge this gap by investigating herd behavior in shariah-compliant stocks in 10 Islamic countries, using the CSAD technique.

The main purpose of this paper is to make a contribution in the study of herd behavior in 10 Islamic Countries. According to our knowledge studies have been conducted in different countries on herd behavior but there are not much studies conducted on herd behavior in Islamic stocks of 10 Islamic countries and since Islamic finance industry is growing rapidly therefore, our study will be a contribution to examine the herd behavior in shariah compliant stocks.

The remainder of this paper is structured in the following manner. Section 2 highlights the significant Literature related to herd behavior and Islamic countries. Section 3 explains the mode of data collection and imposition of test applied to check for herd behavior. Section 4 presents the empirical findings and their implications and finally Section 5 discusses the limitations and future recommendations for further studies in this direction.

2. Literature review

2.1 Research on herd behaviour in traditional markets

Since the advent of the Efficient market hypothesis (EMH) in the 1960's by Fama, scholars have held the popular belief that in equity markets share prices are reflective of all information available to the investors (Carpenter et al, 2020). Existence of asymmetry of information, volatility in prices and returns, market speculations have diverted the direction of researchers back to empirical reasoning not addressed by EMH (Javeria and Hassan, 2015). Fama (1970) suggested that we can call a market as efficient when the investors act rationally and all the information that is available completely reflects prices and it can be divided into three main classifications: weak market, semi-strong market and strong market. In a weak market the stock price reflects the past information about the stock (historical price). In a semi-strong market, the stock price reflects the historical prices as well as that information which is published and in a strong market the stock price reflects all information whether it is published or non-published. According to Baker and Nofsinger (2007)

if there is rational behavior of investors, the market is efficient and similarly if the investors do not act rationally it makes the market inefficient but their biases must not be correlated. Research on behavioral economics and behavioral finance is not new. There is a growing literature on market psychology and the behaviour of market participants during times of financial stress and financial crises (BenMabrouk, 2018; Kahl, 2002; Habib, 2013). The focus in this paper is made on tests of herd behaviour to examine whether some market participants are mimicking the behaviour of others.

Traces of herd behavior can be sought out to as early as 1930 by Keynes who suggested the tendency for investors to imitate other investors instead of making autonomous scientific decision based on their own market assessment. His views supported the popular hypothesis that it is better to drown with the crowd rather than rise uncustomary. In the context of financial markets herd behavior has shown to set fire to speculation resulting in bubbles who inevitably burst. Further market price does not completely represents the investor's perception; there are always missing behavioral elements. Traditional finance theories therefore are insufficient to fully explain the price mechanism of the stock markets and hence investor behavior (Ah Mand and Sifat, 2021; Huang et al, 2015).

It is a known fact that that smaller investors try to imitate the actions of bigger stockholders. Ahmed and Karira (2019) studied herd behavior in Pakistan stock exchange and the results suggested that in the overall market herd behavior is not seen but in industry specific analysis four sectors were identified that showed herd behavior. Whereas, Shah et al., (2017) investigated the herding behavior in markets and industry portfolios. The results indicated that herding is present but there is weak proof of herding of industry portfolios.

Zakie and Rafik (2017) studied the herding on shariah stocks in Indonesian stock exchange and proves that there is herding behavior in investors because of asymmetry of information. In this case there were foreign as well as domestic investors and it was seen that there is more herding in foreign investors as compared to the domestic investors. One of the main reasons of herding behavior is asymmetrical information (Stavroyiannis and Babalos, 2017). When the investors find asymmetry of information they tend to herd and follows other investors whom they feel might have enough information about the stocks. This causes the market to become inefficient when investors show herding behavior. (Arisanti and Oktavendi, 2020) and (Yousaf, and Shah, 2018) confirm and show presence of herding performance because of asymmetry of information.

Medhioub and Chaffai (2019), examined different sectors for herd behavior. The four sectors that were studied are banking sector, insurance sector, industrial sector and hotels, restaurant, and foods sector. Previous studies on the same stock market did not focus on the sectors but studied the overall market and conducted a non-sectoral analysis. The results showed that there is sign of herd behavior during falling periods in major sectors of the stock market. (Chaffai and Medhioub, 2017) While examining herding in Gulf Islamic stock market in their research found that herd behavior is present in GCC stock market but in this study they found that this behavior is only seen during rising market periods. Another study by (Medhioub and Chaffai, 2018) explored herding behavior in five GCC Islamic stock markets (Bahrain, Kuwait, Qatar, Saudi Arabia, and UAE). The results showed that herd behavior in Islamic stocks markets existed in Saudi Arabia and Qatar during down market period and herding in Kuwait and Emirates was found with local conventional stock markets. However, all the results inveterate that herd behavior exists in Gulf Islamic stock markets.

(Kamil and Abidin, 2017) examined the herd behavior in Malaysia among investors of shariah compliant equities. In this study, the results suggested that no evidence of herd behavior is found in Shariah compliant equities which shows that investors behave rationally which seems consistent with rational asset pricing theory. Whereas, Metawa et al., (2018) investigated the demographic characteristics of investors and their investment decisions using behavioral factors. According to this study the main elements that influence the decision making of the investor include herd behavior also which shows that there is an impact of herding behavior on investors' decision making.

(Demir and Solakoglu, 2016) Studied the frontier markets in the Middle East which included Dubai, Oman, Bahrain, Qatar, and Kuwait. The study showed the effects of herding in these markets and while studying these markets it indicated that there is existence of herding behavior in Kuwait and Qatar but Bahrain and Oman do not show any signs of herding in these markets similarly as seen in the study by (Kamil and Abidin, 2017) there was no herding in

Malaysian Islamic stocks which shows that there are varied results of herding in previous studies. Some markets show the herding behavior whereas in some markets herding behavior is not seen according to the previous studies.

Investor behavior especially with regard to herding has been widely studied in Islamic as well as non-Islamic stocks. Researchers have tried to examine herd behavior in different stocks at different times. According to (Gavriilidis et al, 2016) herding is significantly seen as in seven majority Muslim countries which is stronger during Ramadan whereas it has its significance in all days be it Ramadan or not. However, (Yousaf et al, 2018) studied Pakistani stock market for herd behavior during Ramadan and found no evidence of herding during Ramadan. It only shows herding behavior in investors during financial crisis of 2007-08, because of information asymmetry otherwise no herding behavior was seen during the other time periods.

Ethical finance and Islamic Finance has a common obligation to adhere with their principles and faith or vice versa. The Islamic capital market may be devised by several instruments including Islamic mutual funds, sukuk and Islamic stocks. These viable investment options instigate only after screening by an appropriate shariah advisory board operating in the domain of the respective investment instrument. This screening is usually based on qualitative and quantitative prescribed criteria. The purpose of this screening is to make the investment compliant with Islamic financial requirements. The screening is directed to eliminate forbidden business functions such as gharar (uncertainty), maysir (gambling), riba (interest earning dealings) and any/all other activities which in Islamic Shariah is strictly forbidden (haram) (Al Hashfi et al., 2021).

We may be able to drag a line between herding behaviour displayed by less sophisticated investors and decisions made by more sophisticated investors based on market information. A pattern of extensive buying or selling may occur either when the investor believes his sources of market information or financials is not justifiable enough to act upon. He thus resorts to rely upon the actions of other players in the market having faith that this herding pattern will result in future gains or reduction in market losses for his portfolio. Last but not least herding may be visible in Shariah compliant stocks too. Firstly, herding or act upon other's market knowledge or business judgement is not against Islamic law or any shariah principal. Thus there seems no particular reason why there should be an abstinence of this behavior in Islamic stocks when it is a regular occurrence in conventional stocks.

Shah et al, (2017) investigated the herding behavior from different facets like herding towards market, industry, and herding in large and small stocks. The paper showed that there was no herding from individual firms towards market index unless there was a 5% negative return. However, small and large firms show that herd behavior was seen in large firms when there were extreme market movements. Whereas, Chiang et al (2013) indicated that herding behavior is not limited to a particular market condition but it is seen in both rising as well as falling markets and is time varying.

Rizal and Damayanti (2019) studied the presence of herd behavior in Islamic equity market of Indonesia and asserts that herd behavior exists in Islamic stock market of Indonesia but this behavior is seen only during the times when there is falling market condition. (Zakie and Rafik, 2017) also studied the Indonesian market and found herding due to asymmetry of information which means that the investors start following other investor in times when the market is falling thinking that other investors might know which stocks are safe to invest in the times when the market is in falling condition. When there are behavioral biases in an investor the market does not remain efficient but it becomes inefficient. Herd behavior is a behavioral bias where an investor follows other investors decisions without any logical reasoning and this behavior is seen in most of the markets these days.

2.2 Theoretical foundations

This research uses behavioural finance theories, efficient market hypothesis and Islamic finance theories. Herding behaviour itself is one of the behavioural finance theories which is important to measure investor choices (Abdeldayem & Aldulaimi, 2024). On the other hand efficient market hypothesis says that every person knows his or her best economic benefit (Ranjan, 2025). Islamic Finance is mainly based on Riba (Interest) elimination, avoiding excessive uncertainty that leads to disputes in future and prohibition of gambling. However, there is lack of theories of Islamic

finance in contemporary way due to there is theorisation system difference in Islamic and contemporary systems, Islamic theories are based on Quaran and Sunnah rather than the driving from the real world practices (Ahmed & Ismail, 2021).

2.3 Ensuring transparency in Islamic indexes

Regulators in Islamic markets can promote transparency to counter information asymmetry, which is the most common drive of herding. Application of Islamic principles and Shariah compliance can enhance the transparency in the financial system (Akhlaq & Asif, 2024). In Islamic finance, avoiding the excessive uncertainty (Gharar e Kaseer) is one of the key element and this element can promote transparency at large. The regulators can emphasize on this point to avoid the information asymmetry which is a key cause of Herd behavior.

Research on herd behaviour in Islamic finance

The Islamic fundamentals and laws are called Shariah. These are the fundamentals which are obligatory amongst all Muslims. The sources of this jurisdiction are Holy Quran (book), Sunnah (teachings of Prophet Muhammad peace be upon him) Ijma (consensus of religious scholars) and Qiyas (analogical findings) and Ijtihad (interpretations or independent reasoning). All aspects of matter (political, social, ethical financial cultural etc.) are governed by the shariah via these methods in Islamic nations. Based on these sources Muslims have created a system which all Muslim countries should follow. With the advent of this system since the seventh century, this system is still followed with the assistance of Muslim scholars who constantly give new interpretations to current complex phenomena based on the shariah's third source (Qiyas, Ijma and Ijtihad)

Islamic financial activities are no different than other aspects and are thus guided by Shariah principles. The basis of Islamic finance is on four principles: equity (exclusion of interest/ riba), gharar (risk ambiguity or deceit to any party like in gambling), participation (risk sharing), and ownership (non- allowance of selling anything until ownership/ custody not established). (Medhioub and Chaffai, 2018; Azam et al., 2019)

Due to global financial crises of 2008 Islamic finance was given greater attention. Islamic financial products offerred by Islamic institutions assisted in objectifying Islamic Finance. Investors displayed extraordinary prospective of returns with less instability due to the fundamnetal of profit sharing contracts base in Islam as evident in sukooks, Mudaribas and Musharikas. (Medhioub and Chaffai, 2018; Stavroyiannis and Babalos, 2017)

Morals play an essential role in shariah based commercial dealings. This is part of virtue and worship since Islam encourages Muslims to avoid vices and be a source of productivity towards society. A Muslim is one from whose hand and tongue others are safe. Ethics encourage to regularize behavior of an individual in all spheres of life, home, work society, politics etc. This is in accordance to Islamic objectives. Ethics should be reflected in all financial transactions and contracts to portray trust, righteousness, and transparency. Ethics is very similar to Islamic nature promoting morality and distinguishing between right or wrong, halal or haram acceptable or unacceptable. (Medhioub and Chaffai, 2018)

In stock markets investors can be categorized in two types: the more knowledgeable ones and the less learnt ones. The later investor shall act as per the action of the former. This form of mimicing behavior has been verified in conventional stock markets. As we have emphasized above that Islamic as well as ethical guidelines discourages gharar and information abnomilies should ceize to exist. Information should be available to all and arbitrage opportunities should be discouraged.

Islamic stocks comprise of those stocks which abide by the Islamic Shariah.

We shall thus, focus further developments of this study to inquire the occurrence of such 'herd performance' in major Islamic countries. Therefore, we formulate the main hypothesis for this study similar to (Zakie and Rafik, 2017) in the following manner:

H1: The herding behavior is present in Islamic stocks of Islamic countries

3. Data collection and methodological study

3.1 Data

The data acquired in this study comprises of daily stock market prices of ten major Islamic countries (Saudi Arabia, Kuwait, Oman, Qatar, Bahrain, Bangladesh, Pakistan, Indonesia, Malaysia, and UAE) for five years from 2015 to 2019. The data consists of only shariah compliant stocks to identify the herding behavior in shariah compliant investors. These ten countries are selected for this study because many previous studies have been conducted on Islamic countries but these countries are not studied together to check herding behavior.

3.2 Modelling Herd Behavior in Finance

Herd behavior can be attributed to the over valuation of stocks and occasionally contributing to the overvaluation of markets in turn and thus the occurrence of bubbles, speculations, or market crash. The core of these bubbles or crashes are behavioral in their existence. Bickchandani et al. (1992); Wermer (1995); Christie and Haung (1995); Chang (2000); Chaffai and Medhioub (2017) have all proposed statistical measures for analyzing herding behavior. Amongst these models Chang (2000) model further enhanced by Chaffai and Medhioub (2017) is based on dispersion of individual and market return. They have proposed CSSD as a measure of dispersion. Dispersion is expected to decline as individuals go with the action of other investors in the market thus, depicting herd behavior. This effect is opposite to the popular Capital Asset pricing models (CAPM). Further these authors have presented another measure which is cross sectional absolute deviation.

4 Discussion Analysis

To study this phenomenon, cross-sectional absolute deviation, CSADt is employed which is stated as:

$$CSAD_t = \frac{1}{N}\sum_{i=1}^{N}|R_{i,t} - R_{m,t}| \qquad (1)$$

Where CSADt measures the stock return dispersions, Here, N is the number of firms in the stock Market and Ri,t is the stock return of the of the firm in the stock index of the sample, Rm,t represents the return of stock market which is the cross sectional average of the firm's return at period . For the identification of herd occurrence following model has been used by previous studies.

$$CSADt = \beta o + \beta 1 \ |Rm,t| + \beta 2 \ R2m,t + \varepsilon t \qquad (2)$$

Table I presents the descriptive statistics for CSAD in different Islamic countries. Along with descriptive statistics the ADF values show that the null hypothesis of unit root is also rejected for all countries. It was concluded that all values of CSADt are stationary whereas, the skewness is negative for seven out of ten countries and all series have excess kurtosis which shows fluctuations in price and indicates that these series of distributions have heavy tails. Table 2 shows the correlation matrix of CSAD among different countries.

Table I- Descriptive statistics of cross-sectional absolute deviation

	Mean	Median	Max	Min.	St.dev	Skewness	Kurtosis	ADF	Obs.
CSAD (Saudia)	-1.211	-1.211	-1.21	-1.212	0.000	-0.825	13.401	-37.86	1565

CSAD (Kuwait)	-0.678	-0.678	-0.677	-0.679	0.000	-3.214	39.93	-11.36	1565
CSAD (Oman)	-2.235	-2.235	-2.235	-2.237	0.000	-0.798	7.622	-33.33	1565
CSAD (Qatar)	-10.409	-10.409	-10.405	-10.414	0.001	-1.325	17.648	-36.76	1565
CSAD (Bahrain)	-1.677	-1.677	-1.672	-1.682	0.001	0.165	7.381	-39.55	1565
CSAD (Bangla)	-1.363	-1.363	-1.362	-1.363	0.000	0.583	24.513	-37.43	1563
CSAD (Pakistan)	-2191.43	-2191.43	-2191.42	-2191.43	0.000	-0.415	3.824	-30.68	1262
CSAD (Indonesia)	-22.643	-22.643	-22.639	-22.646	0.000	0.028	8.224	-34.62	1235
CSAD (Malaysia)	-409.378	-409.378	-409.376	-409.38	0.000	-0.753	11.747	-32.53	1248
CSAD (UAE)	-3.948	-3.948	-3.946	-3.951	0.000	-1.51	24.931	-21.3	1565

Table 2 – Correlation matrix

Correlation Matrix of the CSAD

Markets	Saudia	Kuwait	Oman	Qatar	Bahrain	Bangladesh	Pakistan	Indonesia	Malaysia	UAE
Saudi Arabia	1.000									
	0.250**									
Kuwait	(.000)	1.000								
	.137**	.226**								
Oman	(.000)	(.000)	1.000							
	.349**	.136**	.122**							
Qatar	(.000)	(.000)	(.000)	1.000						
	.180**	.283**	.181**	.153**						
Bahrain	(.000)	(.000)	(.000)	(.000)	1.000					
	.015	-.026	-.007	-.026	.019					
Bangladesh	(.563)	(.296)	(.789)	(.307)	(.461)	1.000				
Pakistan	0.02	-.016	.046	-.021	.002	.042	1.000			
	(.481)	(.575)	(.100)	(.454)	(.938)	(.134)				
	-.007	.001	-.026	.006	-.052	.079**	.017			
Indonesia	(.804)	(.967)	(.364)	(.845)	(.069)	(.005)	(.544)	1.000		
	-.003	.036	-.016	-.006	-.011	.001	.010	.007		
Malaysia	(.927)	(.209)	(.579)	(.830)	(.688)	(.963)	(.715)	(.796)	1.000	
	.064*	.188**	.160**	.157**	.234**	.027	-.005	-.049	-.013	
UAE	(.012)	(.000)	(.000)	(.000)	(.000)	(.294)	(.863)	(.087)	(.654)	1.000

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Note: This table contains the correlation matrix for the CSAD. Each column contains two statistics for each individual market. The first figure is the correlation coefficient, and the second one is the sig. value for the correlation coefficient

Note: Table 1 lists descriptive statistics of daily, equally weighted cross-sectional absolute deviations (CSAD) for 10 Islamic countries, including Saudi Arabia, Kuwait, Oman, Qatar, Bahrain, Bangladesh, Pakistan, Indonesia, Malaysia, and UAE. The data in this study are daily observations for each market, spanning from 31/3/2015 to 31/03/2020. Missing information for holidays is carefully inspected or interpolated. Calculations of CSAD are given by equation (1)

Estimates of herd behavior in Islamic Countries

The results in table 3 show the estimates of herd behavior in ten major Islamic countries. In order to interpret the existence of herd behavior, if the value of coefficient of R2m,t is negative and significant it is indication that herd behavior exists. The results in table 3 show that all values of R2m,t are negative whereas, Kuwait, Pakistan and UAE are

significant at 1% level, Oman, Indonesia and Malaysia are significant at 10% level and the values of Saudi Arabia, Qatar, Bahrain, and Bangladesh are negative but not significant. Our hypothesis H1 is accepted here. The results are significant, and the alternate hypothesis are accepted. It is concluded that there is existence of herd behavior in the Islamic countries taken in analysis. The result is consistent with (Chaffai & Medhioub, 2017) which show the presence of herd behavior in GCC countries and table 3 also shows presence of herd behavior in Kuwait, Oman and UAE which are included in GCC countries. Results of this study are also in line with (Metawa et al., (2018); (Demir and Solakoglu, 2016) where it can be seen that herd behavior is present in Islamic countries. Similarly, (Gavriilidis et al., 2016) showed presence of herd behavior in seven majority Muslim countries. This indicates that investors in these markets do not make rational decisions and show herd behavior in their investment choices.

Table 3 - Estimates of herding equation

Islamic Country	C	$\|R_{m,t}\|$	$R^2_{m,t}$
	-1.212	0.867	-0.782
Saudi Arabia	(.000)***	(.170)	(.216)
	-0.680	3.115	-3.028
Kuwait	(.000)***	(.000)***	(.000)***
	-2.236	0.964	-0.929
Oman	(.000)***	(.103)*	(.116)*
	-10.412	0.337	-0.244
Qatar	(.000)***	(.561)	(.674)
	-1.679	0.588	-0.492
Bahrain	(.000)***	(.093)*	(.160)
	-1.363	0.889	-0.804
Bangladesh	(.000)***	(.135)*	(.177)
	-2191.43	1.622	-1.543
Pakistan	(.000)***	(.017)***	(.023)***
	-22.647	1.040	-0.978
Indonesia	(.000)***	(.070)*	(.088)*
	-409.386	2.678	-2.628
Malaysia	(.000)***	(.011)*	(.013) *
	-3.952	1.438	-1.324
UAE	(.000)***	(.000)***	(.000)***

Note: This table presents the regression results of CSAD. The estimated equation (2) is specified as: $CSAD_t = \beta_o + \beta_1 |R_{m,t}| + \beta_2 R^2_{m,t} + \varepsilon$ where $CSAD_t$ is equally weighted cross-sectional absolute deviations; $R_{m,t}$ is the value of an equally weighted realized return of all firms' indexes on day t ; and $R^2_{m,t}$ is the squared term of $R_{m,t}$. The numbers in parentheses are sig. values. ***, **, * denotes that the coefficient is significant at the 1%, 5%, and 10% levels, respectively

Table 4 - Estimates of Quantile Regression

CSAD	C	$\|R_{m,t}\|$	$R^2_{m,t}$

Saudia	-1.210***	0.000	-0.000
Kuwait	-0.677***	-0.000	0.000
Oman	-2.236***	-0.000	0.000
Qatar	-10.41***	-0.000	0.000
Bahrain	-1.676***	0.000	-0.000
Bangladesh	-1.362***	-0.000	0.000
Pakistan	-2191.4***	0.000	-0.000
Indonesia	-22.64***	0.000*	-0.000*
Malaysia	-409.38***	0.000	-0.000
UAE	-3.952***	0.000	-0.000

Note: *, **, *** show significance level at 1%, 5% and 10% respectively.

Table 4 shows results of quantile regression. Since Herd behavior can be spotted in the tails of the market return distribution. Therefore, quantile regression is an appropriate tool to analyze dispersion of stock returns and extreme tails of distribution. We have followed the methodology developed by Chiang et al., (2010), who employed this technique to the Chinese stock market. QR can be used to obtain estimates for herding in the tails of market return distribution we do not require as high level of nonlinearity for detection.

Table 5 - Estimates of GARCH equation

CSAD	C	$\|R_{m,t}\|$	$R^2_{m,t}$
Saudi Arabia	-1.211***	0.000***	-0.00***
Kuwait	-0.680***	0.000**	-0.00**
Oman	-2.236***	0.000***	-0.00***
Qatar	10.41***	0.000***	-0.00**
Bahrain	-1.675***	-0.0001*	-0.00*
Bangladesh	-1.363***	0.000***	-0.00***
Pakistan	2191.4***	0.000***	-0.000
Indonesia	-22.64***	0.000***	-0.00***
Malaysia	-409.38***	0.000***	-0.000
UAE	-3.952***	0.000***	-0.00***

Note: *, **, *** show significance level at 1%, 5% and 10% respectively.

Table 5 above portrays the output of GARCH test for testing volatility in ten selected countries to check for herd behavior. Our results concludes that a GARCH model with generalized error distribution (GED) residuals is a superior model for explaining the volatility of daily returns and confirming the significance of indication of herding behavior in the Islamic countries which is in line with the results of (Rizal and Damayanti, 2019). GARCH model can be a powerful tool to analyze the effects of dispersion. If the estimated coefficients in the conditional variance are closer to

1, then the jolts to the conditional variance are greatly diligent. Volatility in stock yields may vary from good to bad newsflash. For good periods low volatility is assumed and conversely for bad periods a high volatility is projected.

5. Conclusion and policy implications.

In this study, herd behavior among shariah compliant investors was studied in ten major Islamic stock markets. Daily data was used from March 2015 to March 2020, the results indicated herd behavior in six Islamic countries (Kuwait, Oman, Pakistan, Indonesia, Malaysia and UAE) in which the squared coefficient of market return was adverse and statistically significant which means that herd behavior occurs in the shariah compliant investors in these countries and the investors do not take rational decisions but follow others and take decisions without any logical justification. Whereas, in other four countries (Saudi Arabia, Qatar, Bahrain and Bangladesh) the values of coefficient of R2m,t are negative comprehending that they are not statistically significant. These results are in conformity with the previous study of (Chaffai and Medhioub, 2017) which showed occurrence of herd behavior in GCC countries. The paper adopts CSADt methodology to study the herd behavior in these Islamic countries which is given by equation no. 2.

This study has several implications for policymakers. Herd behavior may lead to market volatility because due to herd behavior the investors take unnecessary and extreme risk by following others without any logical reasoning so in order to improve their decision-making the quality of information that is provided to investors must be improved and it should be easily available for investors. Other than that, investors' financial knowledge should be improved so that they know more about fundamental and technical analysis and be confident in their decision-making instead of relying on others. Targeted financial literacy initiatives that support independent decision-making, raise risk awareness, and enhance adherence to ethical investment principles help to minimize her behavior in Shariah-compliant indices. Investors can make reasonable and informed decisions by using education, technology, and advisory services, so producing a more steady and effective Islamic financial market (Shahimi and Zahari, 2025). Particularly in Shariah-compliant investment environments, where ethical and religious values direct financial decision-making, financial literacy is absolutely vital in determining investor behavior. Herd behavior—where investors follow the actions of others rather than making independent, rational investment choices—can produce price distortions, volatility, and inefficiencies in Shariah-compliant indices. By encouraging independent decision-making, enhancing risk assessment capacity, and so strengthening adherence to basic investment principles, financial literacy programs tailored to Shariah-conscious investors can help to reduce herd behavior. Because of restrictions on acceptable investments, Shariah-compliant indices including the FTSE Shariah Index and the Dow Jones Islamic Market Index often show herd behavior; hence, financial literacy programs are crucial in reducing irrational trading (Foo, 2023; Foo et al., 2023). Further such programs and reduce economic and other uncertainties (Khalid and Iqbal, 2025) and enhance firm performance (Nazir et al., 2021). Market efficiency and stability are threatened by herd behavior in Islamic indices of Muslim nations. To stop irrational market trends, policymakers need to adopt a multifaceted strategy that includes institutional strengthening, investor education, regulatory improvements, regional collaboration, and technology integration. These regulations can help Muslim financial markets grow sustainably, boost investor confidence, and create a more robust Islamic financial system (Gabbori et al., 2024).

The limitation of this study is that it has been conducted in the context of 10 Islamic countries and it is confined to Islamic stockholders who invest in equity market.

Finally, this research can be extended and in the future it can be conducted in other economies from Europe, USA and other parts of the world to evaluate the behavior of shariah compliant investors and find out whether the shariah guidelines and ethics properties play any role in Islamic markets.

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